



Effects of permafrost degradation on vegetation in the Source Area of the Yellow River NE Qinghai Tibetan Plateau

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Abstract: Permafrost degradation caused by climate warming has markedly changed ecological environment in the Source Area of the Yellow River, in the northeast of the Qinghai Tibetan Plateau. However, related research about ecological impact of permafrost degradation is limited in this area. More attentions should be paid to the impact of permafrost degradation on alpine grassland. In this study vegetation characteristics (plant species composition, vegetation cover and biomass, etc.) at different permafrost degradation stages (as represented by the continuous and discontinuous permafrost zone, transitional zone, and seasonally frozen ground zone) is investigated. The results showed that (1) there are total 64 species in continuous and discontinuous permafrost zone, transitional zone, and seasonally frozen ground zone, and seasonally frozen ground zone has more species than transitional zone and permafrost zone, (2) sedge is the dominant species in three zones. But Shrub only presented in the seasonally frozen ground zone. These results suggest that permafrost degradation affect the species number and species composition of alpine grassland.